

Using Asset Divider to Investigate the Israel – Palestinian Dispute

John Zeleznikow and Emilia Bellucci

School of Management and Information System, Victoria University,
Melbourne, Australia

{John.Zeleznikow, Emilia.Bellucci}@vu.edu.au

Abstract. Negotiation support systems can provide useful advice and allow disputants to more understand their goals and perform the trade-offs necessary to arrive at acceptable solutions. Whilst the Middle East conflict is a complex multi-party dispute, it might prove useful to examine it from the point of view of interest-based negotiation. Asset Divider is an interest based negotiation support system developed to support family mediation in Australia. When data about the Israel-Palestinian dispute was entered in the system, Asset Divider suggested that a Palestinian State should be created with East Jerusalem as its capital as long as the Palestinians recognised Israel, stopped or heavily limited terrorism and ceased asking for a right of return. Israel would also need to dismantle the fence and most settlements, whilst Palestine would need to discourage other Arab States and Iran from being belligerent towards Israel. Interestingly enough this suggestion is similar to the successful Camp David accords between Israel and Egypt, where Israel gave up territory for recognition and security.

Keywords: Israel-Palestinian conflict, interest based negotiation, negotiation support systems.

1 Introduction

There have been attempts to use computer modelling to resolve international disputes. For example, [1] have used the Adjusted Winner algorithm of [2] to advise upon the claims of China, Taiwan and four members of the Association of Southeast Asian Nations (ASEAN) – Vietnam, the Philippines, Malaysia, and Brunei to part or all of the land areas and surrounding waters of the Spratly Islands (a group of over 230 small islands and reefs in the South China Sea), which were believed to have major oil and gas deposits.

The Israeli-Palestinian dispute has a long history of conflict. It is not easy to exactly identify the parties to the dispute, let alone the attributes of the dispute or the goals of the disputants. And often the disputants use agents (or third parties) to attain their goals. And it is difficult to isolate the Israel-Palestinian dispute from other related issues such as the conflict between Israel and its neighbours in Lebanon, the

dispute over the Golan Heights and the Sea of Galilee (known as Lake Kinnereth by Israel) and the development of nuclear weapons by Iran.

According to [3], disputants can choose to focus on several different approaches to negotiate: interests, rights, or power. Focusing on interests means that the parties try to learn each other's underlying needs, desires, and concerns, and find ways of reconciling them in the construction of an agreement. A focus on interests provides the opportunity for learning about the parties' common concerns, priorities, and preferences, which are necessary for the construction of an integrative, or a mutually beneficial agreement that creates value for the parties. Focusing on rights means that parties try to determine how to resolve the dispute by applying some standard of fairness, contract, or law. A rights focus is likely to lead to a distributive agreement — one in which there is a winner and a loser, or a compromise that does not realize potential integrative gains.

Focusing on power means that parties try to coerce each other into making concessions that each would not otherwise do. A power focus also usually leads to a distributive agreement, and potentially can result in a desire for revenge or the creation of future disputes. In our examination of the Israeli-Palestinian dispute, we shall focus upon interest-based negotiation.

This has also been our focus in developing negotiation support systems. Our major development of negotiation processes has involved using trade-offs and developing online dispute resolution environments (see [4], [5] and [6]). Such disputes are very different than the Middle-East dispute because:

- a) Family disputes are micro disputes whereas the Middle East dispute is a macro one;
- b) Volume – there are a very large number of family disputes, whereas the Middle East dispute is unique;
- c) Number of players – family disputes are primarily two party conflicts whereas the Middle East dispute is a multi part conflict;
- d) Dispute resolution process – in Australian Family Law there is a well known transparent process. This is definitely not the case in the Middle East Dispute.
- e) Use of agents – in family mediations the parties represent themselves, in the Middle East the conflict is often conducted by intermediaries;

There are however some similarities, including:

- f) the need for all parties to live together during and after (hopefully) the dispute is resolved;
- g) the importance of a timely resolution of disputes;
- h) the need to sometimes manage rather than attempt to resolve disputes.

Our goal is to impartially and rigorously study, model, and analyse this conflict and provide insightful and practical conclusions that would help in enhancing our understanding of its underpinnings and possible ways for managing it. We believe that through using our experiences in providing decision support for family and commercial disputes, we can provide useful insights into understanding the Israel-Palestinian conflict. Whilst we are not arguing that we can provide a resolution to the dispute, we believe we can provide useful ideas for the management of the conflict, or at least to develop Islands of Agreement [7].

2 Interest Based Negotiation

Traditional negotiation decision support has focused upon providing users with decision support on how they might best obtain their goals. Such advice is often based on Nash's principles of optimal negotiation or bargaining [8]. Game theory, as opposed to behavioural and descriptive studies, provides formal and normative approaches to model bargaining. One of the distinctive key features of game theory is the consideration of zero-sum and non-zero-sum games. These concepts were adopted to distinguish between distributive and integrative processes.

Limitations of game theory in providing prescriptive advice sought by disputants and their advisers on one hand, and the developments in multicriteria decision-making and interactive methods on the other, provided the groundwork for negotiation analysis as discussed in [9]. Game theory has been used as the basis for the Adjusted Winner algorithm [2] and the negotiation support systems: Smartsettle [10] and Family Winner [5].

2.1 Interest Based Negotiation in Australian Family Law

Family_Winner [5] takes a common pool of items and distributes them between two parties based on the value of associated ratings. Each item is listed with two ratings (a rating is posted by each party), which signify the item's importance to the party. A rating in Family_Winner is a number in value from 0-100 (0 being of no importance; 100 to signify absolute importance). The algorithm to determine which items are allocated to whom works on the premise that each parties' ratings sum to 100; thereby forcing parties to set priorities. The program always checks this is the case, and if not, it scales ratings to ensure all sum to 100. The basic premise of the system is that it allocates items based on whoever values them more. Once an item has been allocated to a party, the ratings of the remaining items are modified (by firing trade-off equations) to ensure the items (and their associated ratings) are ready for the next round of allocation [11].

Family_Winner allocates items to one of two parties in the dispute. Family_Winner's method of decision support involves a complex number of techniques, including the incorporation of an Issue Decomposition Hierarchy, a Compensation and Trade-off strategy, and an Allocation strategy. The trade-offs pertaining to a disputant are graphically displayed through a series of trade-off maps, while an Issue Decomposition Hierarchy enables disputants to decompose issues to any required level of specification.

When evaluating the Family_Winner system, we were made aware of the limitations of using integrative negotiation for providing family mediation decision support. While both the evaluating solicitors and mediators were very impressed with the way Family_Winner suggested trade-offs and compromises, they had one major concern – that in focusing upon negotiation, the system had ignored the issues of justice [5].

For example, Australian Family Law is based upon the paramount needs of the children rather than the interests of the parents. In distributing property the wealth and needs of the family must be taken into consideration, as well as the contribution

each partner made to the marriage. Australian Family Law is one domain where interest-based notions of mediation can conflict with notions of justice¹. In such domains, the use of negotiation support systems that attempt to equally satisfy both parties is limited.

Whilst there are laws regarding international conflicts², they do not have the same influence as the Family Law Act has upon divorcing Australian families. Nevertheless, as [12]³ postulates, in the field of international conflicts, fairer negotiations are more enduring. [13] explore the relationship between principles of justice and the durability of negotiated agreements. Focusing primarily on peace agreements negotiated during the early 1990s, the study provides evidence for a positive relationship between a negotiation being just and that negotiation enduring over time.

We argue that because international negotiations are not heavily regulated by law, the parties more widely use integrative bargaining. Such negotiations are also more likely to rely upon Bargaining in the Shadow of the Law⁴ and the use of BATNAs⁵

Given that we believe negotiation support systems should incorporate issues of fairness as well as integrative bargaining, we now discuss the AssetDivider system which integrates both principles. Later in the paper we shall discuss how we used the AssetDivider system to offer advice upon the Israeli-Palestinian dispute.

2.2 Islands of Agreement

Blum [7] argues that protracted armed rivalries are often better managed rather than solved, because the act of seeking full settlement can invite endless frustration and danger, whilst missing opportunities for more limited but stabilising agreements. She examines in detail enduring rivalries between India and Pakistan, Greece and Turkey and Israel and Lebanon. She notes that in each of these conflicts, neither party is

¹ As [2] do in their work on *Fair Division, from cake cutting to dispute resolution* and [10] in their work on developing the SmartSettle system. Both research groups use game theoretic techniques to provide advice about what they claim are *fair* solutions. Their concept of fair negotiation does not coincide with the concept of legally just negotiations that we are considering. Both systems require users to rank and value each issue in dispute. Given these numbers, game theoretic optimisation algorithms are then used to optimise, to an identical extent, each person's desires. These algorithms are fair in the sense that each disputant's desire is equally met. They do not however meet concerns about justice.

² See the Avalon Project at Yale Law School (<http://avalon.law.yale.edu/about/purpose.asp> last accessed 8 August 2010) for a collection of law and related documents pertaining to international disputes.

³ At p. 276.

⁴ [14] introduced the notion of bargaining in the shadow of the trial (or law). By examining the case of divorce law, they contended that the legal rights of each party could be understood as bargaining chips that can affect settlement outcomes.

⁵ [15] introduced the notion of a BATNA - knowing your *best alternative to a negotiated agreement*. The reason you negotiate with someone is to produce better results than would otherwise occur. If you are unaware of what results you could obtain if the negotiations are unsuccessful, you run the risk of entering into an agreement that you would be better off rejecting; or rejecting an agreement you would be better off entering into.

willing to resolve the core contested issues but both may be willing to carve out specific areas of the relationship to be regulated – what she calls *islands of agreement*.

The concept of managing rather than attempting to resolve a dispute is an important one. For example, rather than attempting to resolve a family dispute, should we just manage it so that minimal conflict or disruption occurs? Eventually, the dispute might be more easily resolved or due to the progress of time, the dispute may no longer exist – such as when dependant children become adults. The development of islands of agreement in international conflicts, allows the protagonists to develop trust in each other.

As is the case with family disputes, in the case of condominium disputes⁶, the disputants often need to live in close proximity to each other and hence develop constructive relationships even whilst engaging in conflict. If condominium disputes are appropriately managed, there may be reduced tensions and no need for a final resolution.

2.3 The Asset Divider System

The AssetDivider system [17] incorporates the basis of Family_Winner's allocation and trade-off strategy to decide upon the allocation of assets based on interests and an item's monetary value. The monetary value in a family law property dispute may be compared to the relative importance of an issue in dispute in an international dispute. In a family property dispute one party may have a high emotional attachment to a record collection which has a minimal financial value. Similarly, in an international conflict, one party might be very interested in receiving an apology for a perceived injustice perpetrated by the other party, but otherwise there is minimal compensation for the proposed injustice.

AssetDivider accepts a list of items together with ratings (two per item) to indicate the item's importance to a party. In addition it also accepts the current monetary value of each item in dispute. We assume this dollar value has been negotiated (if necessary) before AssetDivider is used⁷. Hence, only one dollar value is entered per item. The proposed percentage split is also entered; this reflects what percentage of the common pool each party is likely to receive in the settlement. The system is not capable of determining the percentage split; this figure has to be derived from the mediator's knowledge in past cases or from computer systems.

AssetDivider's output consists of a list of items allocated to each party. All of the items (except one) on the allocation lists are provided in the intake screen by the disputants. The additional item is a "payout" item, which reflects the amount of money a disputant would need to pay the other party for the items they have been allocated.

⁶ Which we are also investigating, as can be seen in [16].

⁷ Sometimes the parties cannot agree on the monetary value of the item. In this case, mediators would reference standard objective tables and the like to reach a consensus. For example, if parties are arguing over the value of a car, then mediators may access websites that gave independent valuations, such as redbook.com.au.

The ratings of issues are normalised to sum to 100. A limitation of the Family_Winner system (arising from its adaptation of the AdjustedWinner algorithm) is the need for users to enter numerical values. Whilst disputants can probably linearly order⁸ the significance to them of all items in dispute, it is unrealistic to expect them to give a numerical value to each item. But it is not unreasonable for the users to assign a linguistic variable⁹ to each item. We thus use a seven point scale which can then be converted into points:

AssetDivider's allocation strategy works by allocating an item to the party whose rating is the highest ie to parties according to whoever values them the most. It then checks the dollar value of items it has been allocated previously (that is, their current list of items), the dollar value of the item presently allocated and the dollar amount permitted under the percentage split given by mediators. If by allocating the item in question the party exceeds its permitted amount, the item is removed from its allocation list and placed back into negotiation. In this case, the item has not been allocated to a party. If the dollar value of the item was within the limits of the amount permitted under the percentage split rule, then the allocation proceeds.

Once an item has been allocated to a party, the remaining ratings (of items still in dispute) are modified by trade-off equations. These modifications try to mimic the effect losing or gaining an item will have on the rest of the items still in dispute. The equations directly modify ratings by comparing each one against that of the item recently lost or won (each party's set of ratings are modified as a result of an allocation). The equations update ratings based on a number of variables - whether the item allocated was lost or gained, the value of the allocated item in relation to items still in dispute and the value of the item whose rating will change as a result. Only the 'losing party' in AssetDivider is compensated by the trade-off equations modifying ratings (whereas in Family_Winner both winning and losing parties were affected). The extent to which ratings were modified was determined through an analysis of data we collected from mediation cases provided by the Australian Institute of Family Studies. These are detailed in [11].

3 Using Asset Divider on the Israeli – Palestinian Dispute

Prior to using the Asset Divider system to provide advice about the Israel-Palestinian dispute, we need to examine the pros and cons of using the system. In section 1 we briefly described the differences between the Middle East dispute and traditional family disputes. We now discuss this issue in detail.

⁸ A set Y is linearly ordered if we can place it in the form $y_1 \leq y_2 \leq \dots \leq y_n$.

⁹ Describing in words how they value each item.

3.1 Contrasting Family Mediations with the Israeli – Palestinian Dispute

Differences between family mediations and the Israeli – Palestinian dispute

Volume: Whilst each year, there are over 20,000 family mediations in Australia each year (and many more in Canada, United Kingdom and United States), there is only one Israeli-Palestinian dispute. Hence in family mediation, we can learn from the successful resolution of past cases. And because there is such a high volume of such cases, Information Technology can be gainfully used to provide negotiation advice and as a forum for online dispute resolution [18].

There is however only one Israeli – Palestinian conflict (even though there are many side issues) with a long complex history. Hence there are very few similar international disputes from which we can search for suitable techniques for dispute resolution.

Micro vs macro: Essentially family law disputes are two party conflicts. Whilst the discussion should focus upon the children, the dispute is invariably between the parents. Grandparents and friends may offer advice and become involved, but only minimally.

The Israeli-Palestinian dispute is a very large multi-part dispute. Although there is an Israeli government with strong powers it is a coalition of the right, with further rightist ultra-nationalist parties, religious parties and one party on the centre left. By taking strong action the Israeli PM takes the risk of jeopardising the majority in the Knesset. Plus there are settler groups who act outside the parliamentary process. One of their members, Yigal Amir, assassinated the Israeli Labour Party Prime Minister in November 1995.

The Palestinian camp (for want of a better word) is even more complex. The Palestinian Authority is in control of the West Bank whilst Hamas control Gaza. These organisations are often in armed conflict. Hezbollah operates from Lebanon whilst there are numerous other groups (such as Islamic Jihad and Popular Front for the Liberation of Palestine), operating in West Bank, Gaza and other areas. And other non-state organisations such as Al Qaeda are involved in actions which they claim are related to the Israeli – Palestinian dispute.

There are also other interested nations (Iran, Syria, formerly Iraq) who threaten action. Then there are third parties who claim to have interests in resolving or at least diminishing the dispute – the United Nations, European Union and USA.

The use of agents: – in family mediation, the parties generally represent themselves. Lawyers can appear but are discouraged from doing so unless the case is heard by a court. In the Middle East, agents are often used. Indeed, often violence occurs against the agents rather than the party directly involved in the dispute. For example, many of the terrorist attacks on USA, for example the Al Qaeda attacks on USA, September 11 2001 were claimed to be as a reaction to the United States support for Israel. And the invasions of Afghanistan and Iraq are related to this issue.

Dispute resolution process: In Australian family law and family mediation there is a well defined transparent process. This not the case in international disputes, and in particular the Middle East conflict. One of the important factors in encouraging

negotiation is ensuring *fairness*: in family mediation fairness equates with justice¹⁰. In international disputes negotiations tend to focus upon interests: meeting the needs of the parties equally. Whilst there are UN and international courts which can theoretically intervene in international disputes, the ability of such organisations to intervene is very limited compared to family law.

There are however some important similarities between Australian Family disputes and the Middle East conflict.

Similarities between family mediations and the Israeli- Palestinian dispute

In both domains, parties *need to live together during and after (hopefully) the dispute is resolved* i.e. strengthen relationships. . This is also true in neighbourhood disputes but very different to business disputes, where if former partners are involved in protracted disputes then they are unlikely to collaborate at a later stage.

Time is important: in families children and relationships change, so it is important to resolve disputes quickly. In international disputes governments and attitudes change. Plus, the longer it takes to resolve disputes in either domain, the more intransigent the parties become.

In both domains it is possible to measure BATNAs and investigate Bargaining in the Shadow of the Law: in family law, participants use the potential court decision as a BATNA and for Bargaining in the Shadow of the Law. In the Middle East, the BATNA is that the prevailing conflict will continue and possibly escalate.

3.2 The Results Derived from Using Asset Divider on a Hypothetical Israel – Palestinian Conflict

Given that we wish to use the Asset Divider system to advice about the Israeli-Palestinian dispute, we need to decide

- a) what issues are in dispute; and
- b) how the disputing parties value each of these issues.

Of course making decisions about both a) and b) is a very difficult task.

From a historic examination of the Israel- Palestinian Dispute, we decided that the following were major issues of dispute, and now discuss how they affected the protagonists.

- 1) **Security** – One of Israel’s major concerns is the security of its citizens. In any final agreement, it would like to think that its partners in the peace process would not allow terrorist activities to come from their territory. The Palestinians do not recognise security as a major issue to them – they allow terrorists to operate to achieve their goals. They realise that any peace treaty would require them to ensure the security of Israeli citizens. The only difficulty would be for a Palestinian Government to ensure there would be no terrorist activities against Israel.

¹⁰ In Australian Family Law the sole measure of fairness is the paramount interests of the children

- 2) **Recognition of Israel** – In 1948, when the United Nations created the State of Israel, the Arab countries refused to do so. Since then, Egypt and Jordan have done so, but not the Palestinian Authority. Israel would like such a guarantee, although it is not as important as the security of its citizens (as it would also like recognition by Lebanon, Syria and Iraq – its neighbours). The Palestinians would originally have preferred a binational state, but would accept recognising the state of Israel as part of a satisfactory negotiation.
- 3) **Autonomy** – it is very important to the Palestinians to create their own state, and not remain under Israeli control or be part of another Arab State (prior to 1967, the West Bank was in Jordan and Gaza in Egypt). Whilst the Israeli government has professed support for Palestinian autonomy, it has neither agreed to timelines or the proposed boundaries. It would need to do so in any acceptable negotiation.
- 4) **Jerusalem** – Jerusalem and the right of return are perhaps the items on which the protagonists are furthest apart, and hence both parties value them very highly. Jerusalem was the capital of King David's Israel and has a revered place in the Jewish religion. The Knesset (Israeli Parliament) is in West Jerusalem.
Jerusalem is the third most important city in Islam after Mecca and Medina. The population of East Jerusalem is majority Arab. The Palestinian nation wants East Jerusalem to be its capital. Hence we have divided control of East Jerusalem (it is accepted that the Western part will remain in Israel) into two sub-issues: whether it would be part of the new Palestinian state and if so, whether it would be the capital of that state.
- 5) **Right of return** – A large number of Arabs, fled Israel when the state was created in 1948. At that time, they were encouraged to do so by Arab states, who promised them that they would soon victoriously return to their homes. Whether these Arabs and their children should be allowed to return to Israel over sixty years later, is an issue of dispute. Israel does not want to allow more than a minimal right of return, since they are worried about Israel eventually having a non Jewish voting majority. Whilst the Arabs want to be able to return to the property they left, they may be prepared to forgo this right if adequately compensated. Hence we have divided the issue.
- 6) **The maintenance of nuclear weapons by Iran** – whilst this might appear to be irrelevant to the Israeli – Palestinian dispute, the Israeli government is very worried about Iran acquiring and using nuclear weapons. As a third part, Iran would not be privy to any peace treaty. However a Palestinian government might be able to encourage Iran to be less belligerent and hence make the Israelis happier.
- 7) **Dismantlement of settlements** – since 1967, Israel has built many settlements in both the West Bank and Gaza. In 2006, the then Israeli Prime Minister, Ariel Sharon removed all Jewish settlements in the Gaza Strip. The Palestinians would like the settlements dismantled. However the Israelis would certainly refuse to dismember some of the populous settlements (such as Ariel) and those close to the current border. However to actually

construct a Palestinian state, Israel would need to dismantle most of the smaller settlements

- 8) **Removal of the fence as a barrier between Israel and the Palestinian Territories** – to control the number of terrorist activities by Palestinians in Israel, Israel has constructed a security fence which divides the West Bank. This makes travel in the West Bank very difficult and can divide communities and farms. The Palestinians also see the fence as a barrier between Israel and an eventual Palestinian nation. Hence the Palestinians would like the fence dismantled.

Given the eight issues discussed above, we included them as attributes in the negotiation and entered ratings for both Israel and the Palestinians for each issue. Because we have used the current version of AssetDivider, we also needed to incorporate a percentage split (used in Asset Divider to meet issues of justice). As we did not want to bias the negotiations to either party, we made the percentage split 50/50. In Asset Divider, we gave each item in dispute a numerical value, to indicate its financial value. For the Middle East dispute we decided how important it was to both parties. So Right of Return was 85, Removal of Fence and Autonomy 80, Jerusalem 75, Security 70, Recognition of Israel and Dismantlement of Settlements 50, and Iran and Nuclear Weapons 30.

This data was entered into Figure 1 below.

Relationships Australia Queensland Evaluation version - Asset Divider - [Allocation Summary]

Main Reports Help

Case No: 8 Description: Second ME

Enter ratings for Israel

Item Name	Party A Rating
Security	70
Recognition of Israel	40
[BENUSALM] East - Jewish	0
[BENUSALM] West - Jewish	0
[BENUSALM] As Palest	80
Autonomy	80
[RIGHT OF RETURN] All	100
[RIGHT OF RETURN] C1	100
Iran no nuclear weapon	30
Dismantlement of settlers	0
Removal of fence	30

Enter ratings for Palestinians

Item Name	Party B Rating
Security	0
Recognition of Israel	10
[BENUSALM] East - Jewish	0
[BENUSALM] West - Jewish	0
[BENUSALM] As Palest	80
Autonomy	80
[RIGHT OF RETURN] All	70
[RIGHT OF RETURN] C1	40
Iran no nuclear weapon	0
Dismantlement of settlers	50
Removal of fence	50

Buttons: Delete Item, Refresh Grids, Divide Item, Allocate Items

Allocation Summary

Item Name	Item Dollar Value	Item Percentage	Value Allocated To
Security	\$70.00	10.29	Israel
Recognition of Israel	\$50.00	7.35	Israel
[BENUSALM] East - Jewish	\$80.00	11.76	Palestians
[BENUSALM] West - Jewish	\$70.00	10.29	Palestians
Autonomy	\$80.00	11.76	Palestians
[RIGHT OF RETURN] All	\$100.00	14.71	Israel
[RIGHT OF RETURN] C1	\$70.00	10.29	Israel
Iran no nuclear weapon	\$50.00	7.35	Palestians
Dismantlement of settlers	\$80.00	11.76	Palestians
Removal of fence	\$20.00	2.94	Israel
PAVOUT	-\$20.00	-2.94	Palestians

Buttons: << Back, Print Allocation, Cancel

Allocation has not been run...

Fig. 1. Use of Asset Divider on the Israeli-Palestinian dispute.

The Allocation summary indicates the suggestions arising from the Asset Divider system, using interest-based negotiation for the Israeli-Palestinian dispute. To meet

the interests of both parties equally, Israel would need to give the Israelis a cash payout¹¹.

In this allocation it is suggested that Israel recognise a Palestinian state, with East Jerusalem as its capital. They would also be asked to dismantle the current security fence and evacuate those smaller settlements that are not in close proximity to current Israeli borders. To make such an agreement acceptable to Israel, the Palestinians would need to recognise the State of Israel and encourage other Arab states to do likewise. Palestinians would have to forgo any right of return to Israel (for which they would be compensated) and do their utmost to ensure no anti Israel terrorist activities emanated from Israeli territories. Further, they would need to encourage Iran not to develop nuclear weapons and not to make belligerent statements against Israel.

3.3 The Benefits and Drawbacks of Using Advice Given by Asset Divider on the Israel – Palestinian Dispute

Despite the drawbacks of using an interest based decision support system designed to support negotiation in Australian Family Law on the Israeli-Palestinian dispute, there are some major benefits to be obtained from the use of the system. The first important point to make is that a logical solution would be the creation of a Palestinian State with East Jerusalem as its capital as long as the Palestinians recognised Israel, stopped or heavily limited terrorism and ceased asking for a right of return. Israel would also need to dismantle the fence and most settlements, whilst Palestine would need to discourage other Arab States and Iran from being belligerent towards Israel. Interestingly enough this is similar to the successful Camp David Accords between Israel and Egypt in 1978, where Israel gave up territory for recognition and security. It should be pointed out that the Camp David Accords have not been used as a model for this process. But they too involved interest based negotiation and have endured for over thirty years. Clearly a solution that involves the transfer of land in return for recognition and security is a logical one.

However, whilst the Camp Davis Accords have endured, the then Egyptian Prime Minister Anwar Sadat, who signed the Accords was assassinated by an Egyptian in 1981. And the Israeli Prime Minister Yitzhak Rabin who signed the Oslo Accords in 1993, was assassinated by an Israeli in 1995. Clearly, any peace partner is at peril from dissidents on his own side.

The beauty about using Asset Divider is that the system can be used to trial hypotheticals. If the protagonists are not happy with the system solutions, they can change the items in dispute, how they rate these items or the value of the items and run the system on the new information. The ensuing advice might be more acceptable. If not, the disputants can ask themselves why they are obtaining undesirable results. Perhaps it is because they are not telling the system exactly what they want.

¹¹ The United States might financially support Israel to make such a payout

4 Conclusion

The Israeli – Palestinian dispute is an ongoing conflict that has caused grief not only to the disputants but numerous bystanders. It has a broad range of issues, some of which are not easily definable, let alone quantifiable. Nevertheless, we have chosen to use Asset Divider, a system which uses both integrative and justice based negotiation, to provide advice about the conflict.

We realise that there are many reasons not to pursue such a task: Family disputes are micro disputes whereas the Middle East dispute is a macro one; there are a very large number of family disputes, whereas the Middle East dispute is unique; family disputes are primarily two party conflicts whereas the Middle East dispute is a multi part conflict; in Australian Family Law there is a well known transparent process. This is definitely not the case in the Middle East Dispute and in family mediations the parties represent themselves, whilst in the Middle East, the conflict is often conducted by intermediaries.

Nevertheless, we believe the system can and does provide useful advice about the conflict. For example, after a long examination of the history of the dispute, we identified the issues in dispute and the parties goals with respect to these issues. When the information was input into the system, the suggestion was that a Palestinian State should be created with East Jerusalem as its capital as long as the Palestinians recognised Israel, stopped or heavily limited terrorism and ceased asking for a right of return. Israel would also need to dismantle the fence and most settlements, whilst Palestine would need to discourage other Arab States and Iran from being belligerent towards Israel. Interestingly enough this suggestion is similar to the successful Camp David accords between Israel and Egypt, where Israel gave up territory for recognition and security.

References

1. Denoon, D., Brams, S.: Fair Division: A New Approach to the Spratly Islands Controversy. In: *International Negotiation*, 2(2), pp. 303-329 (1997)
2. Brams, S. J., Taylor, A. D.: *Fair Division, from cake cutting to dispute resolution*. Cambridge University Press, Cambridge, UK. (1996)
3. Ury, W.L., Brett, J.M., Goldberg, S.B.: *Getting disputes resolved*. 2nd ed. Jossey-Bass, San Francisco (1993)
4. Lodder, A., Zeleznikow, J.: Developing an Online Dispute Resolution Environment: Dialogue Tools and Negotiation Systems in a Three Step Model. In: *The Harvard Negotiation Law Review*, 10, pp. 287-338 (2005)
5. Bellucci, E., Zeleznikow, J.: Developing Negotiation Decision Support Systems that support mediators: a case study of the Family_Winner system. In: *Journal of Artificial Intelligence and Law*, 13(2), pp. 233-271 (2006)
6. Lodder, A., Zeleznikow, J.: *Enhanced Dispute Resolution through the use of Information Technology*. Cambridge University Press (2010)
7. Blum, G.: *Islands of Agreement: Managing Enduring Armed Rivalries*. Harvard University Press, Cambridge MA (2007)
8. Nash, J.: Two Person Cooperative Games. In: *21 Econometrica*, pp. 128-140 (1953)

9. Raiffa, H. *The Art and Science of Negotiation. How to Resolve Conflicts and Get the Best out of Bargaining*, Harvard University Press, Cambridge, MA (1982).
10. Thiessen, E. M., McMahon, J. P.: *Beyond Win-Win in Cyberspace*. In: *Ohio State Journal on Dispute Resolution*, 15, p. 643 (2000)
11. Bellucci, E. *Developing Compensation Strategies for the construction of Negotiation Decision Support Systems*. PHD thesis, La Trobe University, Bundoora 3086, Victoria, Australia (2004)
12. Druckman, D.: *Doing Research: Methods of Inquiry for Conflict Analysis*, Sage, London United Kingdom (2005)
13. Druckman, D., Albin, C.: *Distributive Justice and the Durability of Negotiated Agreements*. In: *Occasional Papers Series*, 10, The Australian Centre for Peace and Conflict Studies, Brisbane, Queensland (2008)
14. Mnookin, R., Kornhauser, L.: *Bargaining in the shadow of the law: The case of divorce*. In: *Yale Law Journal*, 88, pp. 950-997 (1979)
15. Fisher, R., Ury, W.: *Getting to YES: Negotiating Agreement Without Giving In*. In: Houghton Mifflin, Boston (1981)
16. Abrahams, B., Condliffe, P., Zeleznikow, J.: *Managing Owners Corporation Disputes with Negotiation Decision Support and Alternative Resolution Procedures*. In: De Vreede, G.J. (ed.) *Proceedings of GDN2010, the 11th Group Decision and Negotiation Conference*, Delft, Netherlands, 21-23 June, University of Nebraska at Omaha, pp. 122-139 (2010)
17. Bellucci, E.: *AssetDivider: A New Mediation Tool in Australian Family Law*. In: Hindriks, K.V, Brinkman W.P. (eds.) *Proceedings of the First International Working Conference on Human Factors and Computational Models in Negotiation*, Delft University of Technology, Delft, The Netherlands, pp. 11-18 (2008)
18. Bellucci, E., Macfarlane, D., Zeleznikow, J.: *How Information Technology can support Family Law and Mediation*. In: Abramowicz, W., Tolksdorf, R., Wechel, K. (eds.) *Third Workshop on Legal Informatics and Legal Information Technology (LIT 2010) in conjunction with 13th International Conference on Business Information Systems (BIS 2010)*. LNBIP, 57, pp. 243-255. Springer-Verlag, Berlin (2010)